Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A thermoelectric effect device, comprising:

a first thermoelectric converter element and a second thermoelectric converter element, wherein each thermoelectric converter element comprises a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other and a joint member that joins the first electric conductor member and the second electric conductor member,

wherein the thermoelectric effect device is configured such that a side of the first electric conductor member of the first thermoelectric converter element that is opposite to the joint member of the first thermoelectric converter element is electrically connected via an electric conduction material and a direct current source to a side of the first electric conductor member of the second thermoelectric converter element that is opposite to the joint member of the second thermoelectric converter element,

wherein the side of the first electric conductor member of the first thermoelectric converter element and the side of the first electric conductor member of the second thermoelectric converter element face one another,

wherein the thermoelectric effect device is configured such that a side of the second electric conductor member of the first thermoelectric converter element that is opposite to the joint member of the first thermoelectric converter element is electrically connected via another electric conduction material to a side of the second electric conductor member of the second thermoelectric converter element that is opposite to the joint member of the second thermoelectric converter element, wherein the side of the second electric conductor member of the first thermoelectric converter element and the side of the second electric conductor member of the second thermoelectric converter element face one another, [[and]]

wherein each electric conduction material has such a length as to keep the first thermoelectric converter element and the second thermoelectric converter element at least free from a mutual thermal interference,

wherein [[a]] the direct current source is connected in-line via the electric conduction material to the first and second thermoelectric converter elements ~~to constitute~~ constituting a Peltier effect heat transfer circuit system which has an endothermic section and an exothermic section,

wherein the Peltier effect heat transfer circuit system is configured such that one of the first and second thermoelectric converter elements includes the endothermic section at a boundary between the joint member and the first electric conductor member and at a boundary between the joint member and the second electric conductor member of the one thermoelectric converter element, and an other of the first and second thermoelectric converter elements includes the exothermic section at a boundary between the joint member and the first electric conductor member and at a boundary between the joint member and the second electric conductor member of the other thermoelectric converter element,

wherein the thermoelectric effect device is configured such that a distance is provided between the endothermic section and the exothermic section such that a temperature T_α at the endothermic section and a temperature T_β at the exothermic section maintain a relation $T_\alpha < T_\beta$, and

wherein the first thermoelectric converter element and the second thermoelectric converter element are arranged in the Peltier effect heat transfer circuit system such that the first electric conductor members and the second electric conductor members do not alternate with one another.

2. (Currently Amended) A thermoelectric effect device, comprising:

2n pieces of thermoelectric converter elements, wherein each thermoelectric converter element comprises a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other and a joint member that joins the first electric conductor member and the second electric conductor member,

wherein the thermoelectric effect device is configured such that a side of the first electric conductor member of the first thermoelectric converter element that is opposite to the joint member of the first thermoelectric converter element is electrically connected via an electric conduction material and a direct current source to a side of the first electric conductor member of the second thermoelectric converter element that is opposite to the joint member

of the second thermoelectric converter element, wherein the side of the first electric conductor member of the first thermoelectric converter element and the side of the first electric conductor member of the second thermoelectric converter element face one another,

wherein the thermoelectric effect device is configured such that a side of the second electric conductor member of the first thermoelectric converter element that is opposite to the joint member of the first thermoelectric converter element is electrically connected via electric conduction material to a side of the second electric conductor member of the second thermoelectric converter element that is opposite to the joint member of the second thermoelectric converter element, wherein the side of the second electric conductor member of the first thermoelectric converter element and the side of the second electric conductor member of the second thermoelectric converter element face one another,

wherein each electric conduction material has such a length as to keep the first thermoelectric converter element and the second thermoelectric converter element at least free from a mutual thermal interference,

wherein the 2n pieces of the thermoelectric converter elements are electrically connected to each other in such a manner as to form a circuit,

wherein the 2n pieces of the thermoelectric converter elements adjacent to each other are alternately disposed, thus forming an endothermic section and an exothermic section, and

wherein [[a]] the direct current source is connected in-line via the electric conduction material to the first and second thermoelectric converter elements ~~to constitute~~ constituting a Peltier effect heat transfer circuit system which has n piece of the endothermic section and n piece of the exothermic section,

wherein the Peltier effect heat transfer circuit system is configured such that one of the first and second thermoelectric converter elements includes the endothermic section at a boundary between the joint member and the first electric conductor member and at a boundary between the joint member and the second electric conductor member of the one thermoelectric converter element, and an other of the first and second thermoelectric converter elements includes the exothermic section at a boundary between the joint member and the first electric conductor member and at a boundary between the joint member and the second electric conductor member of the other thermoelectric converter element,

wherein the thermoelectric effect device is configured such that a distance is provided between the endothermic section and the exothermic section such that a temperature T_α at the endothermic section and a temperature T_β at the exothermic section maintain a relation $T_\alpha > T_\beta$, and

wherein the first thermoelectric converter element and the second thermoelectric converter element are arranged in the Peltier effect heat transfer circuit system such that the first electric conductor members and the second electric conductor members do not alternate with one another.

3. (Currently Amended) An energy direct conversion system using a thermoelectric effect device as claimed in claim 1, ~~comprising:~~

~~a first thermoelectric converter element and a second thermoelectric converter element, wherein each thermoelectric converter element comprises a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other and a joint member that joins the first electric conductor member and the second electric conductor member,~~

~~wherein the energy direct conversion system is configured such that a side of the first electric conductor member of the first thermoelectric converter element that is opposite to the joint member of the first thermoelectric converter element is electrically connected via electric conduction material to a side of the first electric conductor member of the second thermoelectric converter element that is opposite to the joint member of the second thermoelectric converter element, wherein the side of the first electric conductor member of the first thermoelectric converter element and the side of the first electric conductor member of the second thermoelectric converter element face one another,~~

~~wherein the energy direct conversion system is configured such that a side of the second electric conductor member of the first thermoelectric converter element that is opposite to the joint member of the first thermoelectric converter element is electrically connected via electric conduction material to a side of the second electric conductor member of the second thermoelectric converter element that is opposite to the joint member of the second thermoelectric converter element, wherein the side of the second electric conductor~~

~~member of the first thermoelectric converter element and the side of the second electric conductor member of the second thermoelectric converter element face one another,~~

~~wherein the first and second thermoelectric converter elements form a heat transfer circuit system which has an endothermic section and an exothermic section,~~

~~wherein the heat transfer circuit system is configured such that one of the first and second thermoelectric converter elements includes the endothermic section at a boundary between the joint member and the first electric conductor member and at a boundary between the joint member and the second electric conductor member of the one thermoelectric converter element, and an other of the first and second thermoelectric converter elements includes the exothermic section at a boundary between the joint member and the first electric conductor member and at a boundary between the joint member and the second electric conductor member of the other thermoelectric converter element,~~

wherein the first thermoelectric converter element and the second thermoelectric converter element are disposed in ambient temperatures different from one another, and

wherein the energy direct conversion system is configured such that an ambient temperature T1 of [[a]] one of the thermoelectric converter ~~element~~ elements on a high temperature side and an ambient temperature T2 of [[a]] the other of the thermoelectric converter ~~element~~ elements on a low temperature side maintain a relation T1>T2,

wherein the energy direct conversion system is configured to ~~remove~~ take out an electric potential energy from a predetermined section of the electric conduction ~~material~~ materials to constitute a direct energy conversion electric circuit system to directly convert a heat energy into the electric potential energy[[,]]

~~wherein the first thermoelectric converter element and the second thermoelectric converter element are arranged in the heat transfer circuit system such that the first electric conductor members and the second electric conductor members do not alternate with one another~~.

4. (Currently Amended) An energy direct conversion system using a thermoelectric effect device as claimed in claim 2, ~~comprising:~~

~~2n pieces of thermoelectric converter elements, wherein each thermoelectric converter element comprises a first electric conductor member and a second electric conductor member~~

~~which have different Seebeck coefficients from each other and a joint member that joins the first electric conductor member and the second electric conductor member,~~

~~wherein the energy direct conversion system is configured such that a side of the first electric conductor member of the first thermoelectric converter element that is opposite to the joint member of the first thermoelectric converter element is electrically connected via electric conduction material to a side of the first electric conductor member of the second thermoelectric converter element that is opposite to the joint member of the second thermoelectric converter element,~~

~~wherein the side of the first electric conductor member of the first thermoelectric converter element and the side of the first electric conductor member of the second thermoelectric converter element face one another,~~

~~wherein the energy direct conversion system is configured such that a side of the second electric conductor member of the first thermoelectric converter element that is opposite to the joint member of the first thermoelectric converter element is electrically connected via electric conduction material to a side of the second electric conductor member of the second thermoelectric converter element that is opposite to the joint member of the second thermoelectric converter element, wherein the side of the second electric conductor member of the first thermoelectric converter element and the side of the second electric conductor member of the second thermoelectric converter element face one another,~~

~~wherein the 2n pieces of the thermoelectric converter elements are electrically connected to each other in such a manner as to form a circuit,~~

~~wherein the 2n pieces of the thermoelectric converter elements adjacent to each other are alternately disposed, thus forming ambient temperatures different from each other, and~~

~~wherein the 2n pieces of the thermoelectric converter elements form a heat transfer circuit system which has an endothermic section and an exothermic section, wherein the heat transfer circuit system is configured such that one of the first and second thermoelectric converter elements includes the endothermic section at a boundary between the joint member and the first electric conductor member and at a boundary between the joint member and the second electric conductor member of the one thermoelectric converter element, and an other of the first and second thermoelectric converter elements includes the exothermic section at a boundary between the joint member and the first electric conductor member and at a~~

~~boundary between the joint member and the second electric conductor member of the other thermoelectric converter element,~~

wherein a distance [[being]] is secured for keeping an ambient temperature T1 of one of the thermoelectric converter ~~element~~ elements on a high temperature side and an ambient temperature T2 of another of the thermoelectric converter ~~element~~ elements on a low temperature side to keep a relation T1>T2, and

~~wherein the first thermoelectric converter element and the second thermoelectric converter element are arranged such that the first electric conductor members and the second electric conductor members do not alternate with one another,~~

wherein the energy direct conversion system is configured to ~~remove~~ take out an electric potential energy from a predetermined section of one of the electric conduction ~~material~~ materials to constitute a direct energy conversion electric circuit system to directly convert a heat energy into the electric potential energy,

wherein the first thermoelectric converter element and the second thermoelectric converter element are arranged in [[the]] heat transfer circuit system such that the first electric conductor members and the second electric conductor members do not alternate with one another.

5. (Currently Amended) The energy direct conversion system[[,]] as claimed in claim 3, wherein,

the energy direct conversion system further comprises:

at least a pair of the direct energy conversion electric circuit systems, and

a plurality of starting sections using a temperature difference attributable to one of an initial external heating and an initial external cooling,

wherein:

the energy direct conversion system converts a heat energy source directly into the electric potential energy, and wherein the heat energy source is in different ambient temperatures in different places independent of each other.

6. (Currently Amended) An energy conversion system, wherein the energy conversion system converts the electric potential energy into a chemical potential energy through an

electrolization, the electric potential energy being obtained from the [[heat]] energy direct conversion system as claimed in claim 3.

7. (Currently Amended) An energy conversion system, wherein:

the energy conversion system converts the electric potential energy into a chemical potential energy through an electrolization, the electric potential energy being obtained from the [[heat]] energy direct conversion system as claimed in claim 4.

8. (Currently Amended) [[The]] An energy ~~direct~~ conversion system, ~~as claimed in claim 3~~ using an energy direct conversion system as claimed in claim 3, ~~wherein the energy direct conversion system further comprises:~~

~~a thermoelectric effect device comprising the first and second thermoelectric converter elements, and~~

~~a direct current source connected in line via electric conduction material to the first and second thermoelectric converter elements to constitute a Peltier effect heat transfer circuit system which has an endothermic section and an exothermic section,~~

~~wherein the energy direct conversion system is configured such that a distance is provided between the endothermic section and the exothermic section such that a temperature T_α at the endothermic section and a temperature T_β at the exothermic section maintain a relation $T_\alpha < T_\beta$;~~

wherein the first thermoelectric converter element and the second thermoelectric converter element are arranged such that first electric conductor members and second electric conductor members do not alternate with one another,

wherein the energy ~~direct~~ conversion system obtains [[the]] an electric potential energy by supplying to the energy direct conversion system the heat energy obtained from the thermoelectric effect device, and

wherein the energy ~~direct~~ conversion system is configured to use a part of the electric potential energy as a direct current source of the energy conversion system by feeding back part of the electric potential energy to the thermoelectric effect device.

9. (Currently Amended) [[The]] An energy ~~direct~~ conversion system using an energy direct conversion system as claimed in claim 4, ~~as claimed in claim 4, wherein the energy direct conversion system further comprises:~~

~~a thermoelectric effect device comprising the first and second thermoelectric converter elements, and~~

~~a direct current source connected in line via electric conduction material to the first and second thermoelectric converter elements to constitute a Peltier effect heat transfer circuit system which has an endothermic section and an exothermic section,~~

~~wherein the energy direct conversion system is configured such that a distance is provided between the endothermic section and the exothermic section such that a temperature T_α at the endothermic section and a temperature T_β at the exothermic section maintain a relation $T_\alpha < T_\beta$;~~

wherein the energy ~~direct~~ conversion system obtains [[the]] an electric potential energy by supplying to the energy direct conversion system the heat energy obtained from the thermoelectric effect device, and wherein the energy ~~direct~~ conversion system is configured to use a part of the electric potential energy as a direct current source of the energy conversion system by feeding back the part of the electric potential energy to the thermoelectric effect device.

10. (Currently Amended) [[The]] An energy ~~direct~~ conversion system ~~as claimed in claim 5, wherein the energy direct conversion system further comprises:~~ using an energy direct conversion system as claimed in claim 5,

~~a thermoelectric effect device comprising the first and second thermoelectric converter elements, and~~

~~a direct current source connected in line via electric conduction material to the first and second thermoelectric converter elements to constitute a Peltier effect heat transfer circuit system which has an endothermic section and an exothermic section,~~

~~wherein the thermoelectric effect device is configured such that a distance is provided between the endothermic section and the exothermic section such that a temperature T_α at the endothermic section and a temperature T_β at the exothermic section maintain a relation $T_\alpha > T_\beta$;~~

wherein the energy ~~direct~~ conversion system obtains an electric potential energy by supplying to the energy direct conversion system the heat energy obtained from the thermoelectric effect device, and wherein the energy ~~direct~~ conversion system is configured to use a part of the electric potential energy as a direct current source of the energy conversion system by feeding back the part of the electric potential energy to the thermoelectric effect device.

Claims 11-13. (Canceled)

14. (Original) The energy conversion system as claimed in claim 8, wherein the feedback of the electric potential energy is controlled by turning on and off a switch.

15. (Original) The energy conversion system as claimed in claim 9, wherein the feedback of the electric potential energy is controlled by turning on and off a switch.

16. (Original) The energy conversion system as claimed in claim 10, wherein the feedback of the electric potential energy is controlled by turning on and off a switch.

Claims 17-19. (Canceled)

20. (Previously Presented) The energy conversion system as claimed in claim 8, wherein the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

21. (Previously Presented) The energy conversion system as claimed in claim 9, wherein the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

22. (Previously Presented) The energy conversion system as claimed in claim 10, wherein the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

Claims 23-27. (Canceled)

28. (Currently Amended) An energy conversion system, wherein: the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 8.

29. (Currently Amended) An energy conversion system, wherein: the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 9.

30. (Currently Amended) An energy conversion system, wherein: the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 10.

Claims 31-34. (Canceled)